

Appl. No. 09/658,538  
Amdt. dated April 10, 2006  
Reply to Office action of February 9, 2006

#### REMARKS/ARGUMENTS

Claims 7-30, 38-39, 41-42, 44-46, and 49-50 are pending in this application. Claims 1-6, 31-37, 40, 43, and 47-48 have been canceled. In addition, Claims 15, 26, 38, 41 – 42, 44 – 45, and 49 have been amended. Applicant respectfully requests reconsideration of the claims in view of the claim amendments, and the below comments.

Applicant notes that Claim 26 has been amended to correct a typographical error and pursuant to 37 CFR 116(b), Claim 26 has been amended to present the rejected claim in better condition for appeal. The merits of Claim 26 are unaffected by the amendment.

#### **Interview Summary**

Applicant thanks the Examiner for the courtesies extended during the telephone interview on March 22, 2006. During the interview, Applicant and the Examiner discussed the 35 U.S.C. §112 first and second paragraph rejections, the drawing rejections, and the 35 U.S.C. §102 rejections. The Seki reference and the reasons why Seki does not anticipate the claims were also discussed. No agreement was reached.

In a follow up call on April 4, 2006, the Examiner indicated that the 35 U.S.C. §112 first paragraph rejections would be overcome if Claim 1 was amended to recite "bypassing" instead of "removing". The Examiner also indicated that the drawing objections would be overcome if such an amendment was made. Support in the application for decreasing/increasing the notch depth was also discussed. Support for decreasing/increasing the notch depth is provided on at least p. 19, lines 15-16.

#### **Allowable Subject Matter**

Claims 16-18, 23-25, 35-37, and 48-50 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant thanks the Examiner for the suggestion. Applicant has amended Claim 38 to include the limitations of Claim 48 and the intervening claims. Claim 38 is now in condition for allowance. The Claims dependent thereon

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have also been amended to maintain antecedent basis with Claim 38, and are also in condition for allowance.

### **Objection to the Drawings**

The drawings were objected to under 37 CFR 1.83(a), on the basis that the drawings must show every feature of the invention specified in the claims, specifically Claim 1. Claim 1 has since been canceled without prejudice. Therefore, Applicant respectfully requests that the objection to the drawings be withdrawn.

### **Informality Objections**

Claims 6 and 15 were objected to because of informalities. Pursuant to 37 CFR §116(b) in order to comply with the requirement expressly set forth in the office action mailed February 9, 2006, Claim 15 has been amended. Claim 6 has been canceled without prejudice. It is to be noted that correction of the various informalities should not be construed as narrowing amendments to the claims. In view of the amendments, Applicant respectfully requests withdrawal of the objections to Claim 15.

### **The 35 USC §112 first paragraph rejections**

Claims 1-6 were rejected under 35 USC § 112 first paragraph because the claims allegedly contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1-6 have been canceled without prejudice. Therefore, the 35 U.S.C. § 112 first paragraph rejections are moot.

### **The 35 USC § 112 second paragraph claim rejections**

Claims 31 and 38 were rejected under 35 USC § 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has canceled Claim 31 without prejudice.

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**Claim 38**

Applicant respectfully submits that Claim 38, as amended, overcomes the Examiner's rejection as to Claim 38. Applicant submits that the error that elicited this rejection was a typographical error and, pursuant to 37 CFR 116(b), Claim 38 has been amended to present the rejected claim in better condition for appeal. Claim 38, as amended, now removes any basis for rejection under 35 USC § 112 second paragraph.

**The 35 USC §102(b) claim rejections**

The Examiner rejected Claims 7-15, 19-22, 26-34, and 38-47 under 35 U.S.C. §102(b) as being anticipated by Seki et al. (U.S. Patent No. 5,677,987).

**Claims 7-15, and 26-34**

Previously presented Claim 7 and currently amended 26 recite, among other things, *readjusting the at least one digital filter by decreasing a depth of the at least one digital filter if a magnitude of the at least one candidate signal of unwanted acoustical feedback is not reduced by a predetermined amount, such that the unwanted acoustical feedback in the space is reduced.* Applicant respectfully submits that Seki does not describe the readjusting step. In Seki, the signal comes in and passes through a group of notch filters  $3_1$ ~ $3_m$  having a flat frequency characteristic and is applied to the fast Fourier transform unit 7. *See* Seki (6: 31-35). This operates to determine whether the "howling" component of the signal is larger than some predetermined threshold. *See* Seki (6: 42-46). Then, the coefficient selection means selects a coefficient of the notch filter and the selected coefficient is transferred to the coefficient memory connected to the first notch filter  $3_1$ . *See* Seki (6: 28-55). "As a result, the first notch filter  $3_1$ ...exhibits the frequency characteristic shown in FIG. 4. so that the input signal can pass through the group of notch filters 3 and the howling frequency component of the input signal can be attenuated. *See* Seki (6: 56-60) *If new howling occurs subsequently, the coefficients of the second notch filter  $3_2$  to the last notch filter  $3_m$  are sequentially set in a similar manner to suppress all howlings.*" *See* Seki (6: 56-63) (emphasis added).

As discussed during the telephonic interview on March 22, 2006, Seki's process of suppressing "howlings" is markedly different than the invention described in Claims 7 and 26. Claims 7 and 26 describe the step of *readjusting at least one digital filter by decreasing a depth*

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*of the at least one digital filter if a magnitude of the at least one candidate signal of unwanted acoustical feedback is not reduced by a predetermined amount, such that the unwanted acoustical feedback in the space is reduced.* The claim limitation is to at least one digital filter, and readjusting the same. Seki, on the other hand, does not describe at least one digital and readjusting said digital filter, but rather describes deployment of subsequent filters to suppress howlings if the first filter does not accomplish the suppression. Although Seki labels the subsequently added notch filters with the same reference number "3", *see* Seki (6: 61-63), Seki clearly describes the sequentially setting of *additional filters* if the first filter does not accomplish the suppression. *Id.* Clearly, this is entirely different than in Claims 7 and 26 where the same digital filter is being readjusted if a magnitude of one or more candidate signals of unwanted acoustical feedback is not reduced by a predetermined amount

Applicant respectfully requests withdrawal of the 35 U.S.C. §102(b) rejection of Claims 7 and 26 and the Claims dependent therefrom for at least the foregoing reasons.

**Claims 19-22**

Previously presented Claim 19 recites, among other things, *readjusting the at least one notch filter to filter for the at least one candidate feedback frequency wherein the at least one notch filter's depth is decreased if the at least one candidate feedback frequency has not been reduced by a predetermined amount, such that unwanted acoustical feedback is reduced.* Conversely, Seki does not describe such a readjusting step. To the contrary, as previously discussed, Seki, describes a signal that is processed through a group of notch filters  $3_1 \sim 3_m$ , that include coefficients that are sequentially reset.

Seki's process of suppressing "howlings" is markedly different than the steps described in Claim 19. Claim 19 describes at least one digital filter, and readjusting the same. Seki, on the other hand, describes employing subsequent filters to suppress howlings if a first filter does not accomplish the suppression, as previously discussed.

For at least the foregoing reasons, Applicant respectfully requests withdrawal of the 35 U.S.C. § 102(b) rejections of Claim 19 and the Claim dependent therefrom.

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**SUMMARY**

In view of the foregoing remarks, pending Claims 7 – 30, 38-39, 41 – 42, 44 – 46, and 49 – 50 are patentable over the cited prior art. Applicant requests that a notice of allowance be issued. The Examiner is invited to contact the undersigned attorney for the Applicant via telephone if such communication would expedite examination and/or allowance of this application.

Respectfully submitted,



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